

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

UNITED STATES OF AMERICA,)	
)	
Plaintiff,)	
)	
v.)	Civil Action No.
)	
CIBA-GEIGY CORPORATION, and)	W-83-CA-242
McGREGOR CHEMICAL CORPORATION,)	
)	
Defendants.)	
_____)	

STIPULATION FOR ENTRY FOR INITIAL
RESPONSE ACTION

It is hereby stipulated and agreed among the parties, by their attorneys, that the defendants may enter the Naval Weapons Industrial Reserve Plant ("NWIRP"), McGregor, Texas, for the purpose of undertaking initial response action at their own expense as set forth below. This stipulation is without prejudice to claims or defenses by any party and the parties reserve all rights not expressly waived herein.

1. Defendants, their agents and contractors may enter upon NWIRP, McGregor, Texas, upon seven (7) days notice to the United States for the purpose of undertaking initial response action at their own expense;

2. The initial response action shall be the excavation and removal of all visible pesticides, bottles, debris and all visibly affected soils to a depth of four inches at the contaminated

9417731



areas of Area G of NWIRP, McGregor, as shown on Attachment A;

3. The material to be excavated and removed is to be disposed of by defendants at their own expense in conformance with all applicable federal, state and local requirements, including those of NWIRP, McGregor, in a manner that poses no threat to human health, welfare or the environment;

4. The excavation and removal to be performed by defendants is to be in conformity with the attached safety plan.

So ordered this ____ day of July, 1984.

UNITED STATES DISTRICT JUDGE

Attorneys for Plaintiff:

F. HENRY HABICHT, II
Assistant Attorney General
Land and Natural Resources
Division

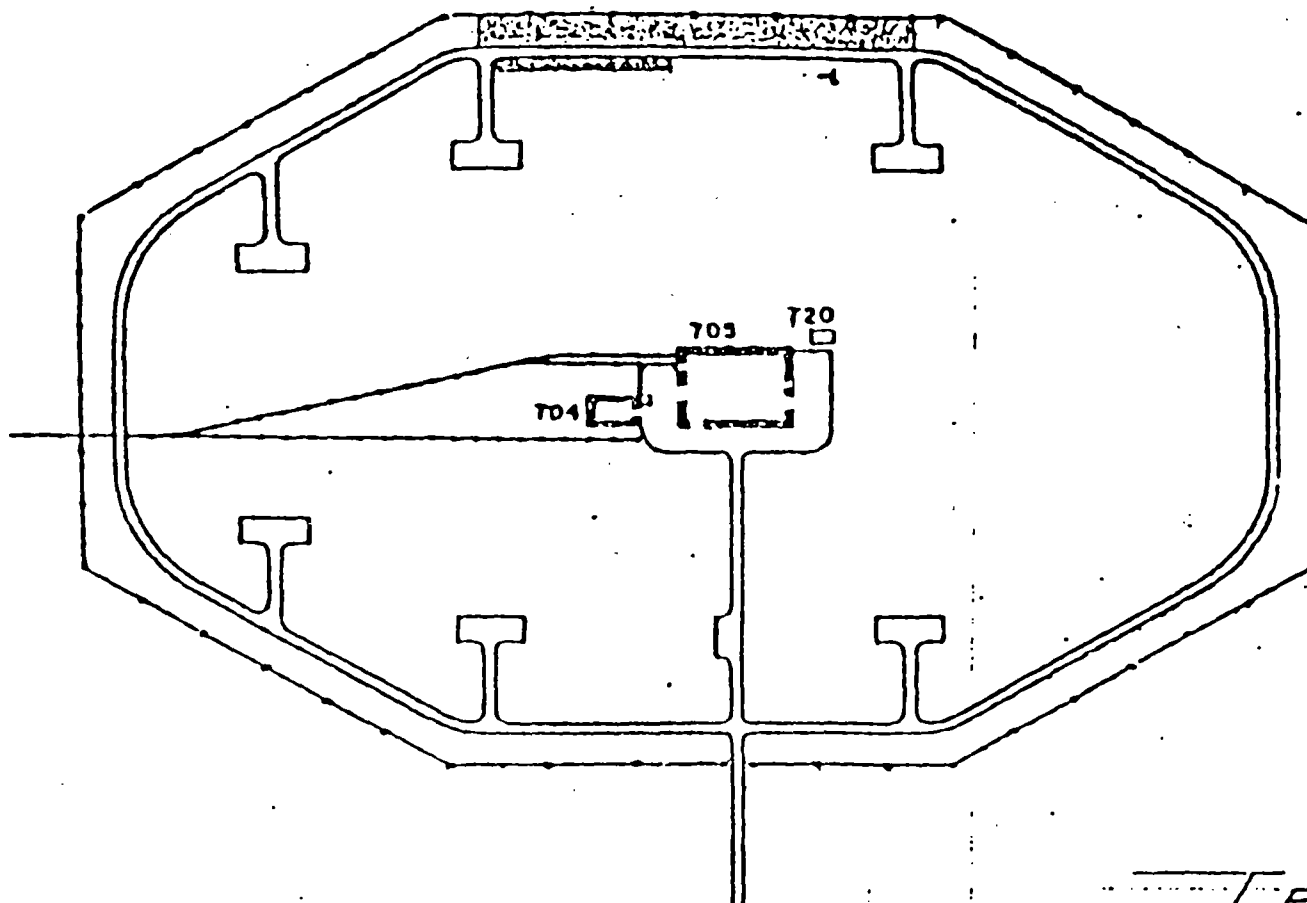
BY:

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Land and Natural Resources
Division
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Washington, D. C. 20530



LEGEND
 [Hatched Box] PESTICIDE CONTAMINATED
 EARTH (THE SITE)

SCALE OF FEET
 200 0 200 400 600

TOOLING & EQUIPMENT STORAGE

EX. A

EA G

UN official

2.5 AREA L (STATIC TESTING)

Located in the southwestern portion of Area L is a waste asbestos disposal site. This disposal site dates back to the period following WWII and up until the early 1950's when Area L was operated by the Union Asbestos Company. The asbestos pile is located west of Building L-1149,

and covers an area approximately 175 feet by 300 feet. Refer to Figure 2-3 for the location and surface configuration. The asbestos pile presents no danger in terms of groundwater contamination, as the asbestos particles would be filtered out in the soil before reaching the groundwater. However, the asbestos presents a problem in terms of surface water contamination.

The asbestos disposal site is adjacent to a well-defined surface drainageway. At the base of the asbestos pile is also a culvert which receives drainage from the pile. This culvert flows into a ditch which enters a tributary of the South Bosque River. There is definite evidence of asbestos transport via the culvert and ditch toward the South Bosque River. A softball-sized piece of asbestos was found in the drainageway south of the disposal site, indicating that transport of asbestos is occurring. If the asbestos reaches the South Bosque River, it could potentially flow into Lake Waco.

The presence of asbestos in the surface water is of importance because of its proven carcinogenic nature. In terms of protecting human health, the USEPA suggests that there should be no detectable levels of asbestos in water. The levels of asbestos which may result in an incremental increase of cancer at 10^{-5} (one additional case per 100,000 population) is 300,000 fibers/l. This was obtained from the Guideline Water Quality Criteria published by EPA on November 28, 1980 (Federal Register, Vol. 45, No. 231).

MC GREGOR NAVAL WEAPONS

TX 9170024708

ASBESTOS

1982

This was
conducted last
summer

SUPERFUND FILE

JAN 12 1993

REORGANIZED

4.3 AREA L (STATIC TESTING AREA)

The waste asbestos dump located in Area L is adjacent to a well-defined drainageway. This drainageway empties into the South Bosque River which eventually empties into Lake Waco. Lake Waco is used for water supply purposes. Since the asbestos is visibly being eroded into the adjacent drainageway, and since ingestion of asbestos is suspected to have carcinogenic effects, this erosion represents a possible threat to human health.

Adverse health effects from the respiration of asbestos has been clearly demonstrated. Since excavation of the asbestos pile would likely generate asbestos dust, EEI does not recommend excavation and removal of the asbestos. However, the erosion of the asbestos into the adjacent drainageway should be halted. This could be done by covering the asbestos with earth or some other suitable covering, and rerouting the drainageway to a safe distance away from the asbestos. This effort must be carefully designed and implemented to prevent future problems from occurring and to minimize the hazard to the workers covering the asbestos.

In order to more fully document the degree of hazard posed by the erosion of the asbestos, EEI recommends that three water samples be collected. One of the samples should be collected from along the drainageway between the asbestos pile and the stock pond located to the southwest of Area L. One of the samples should be collected from the drainageway between this stock pond and the boundary of the plant. The third sample should be collected from the drainageway where it enters the South Bosque River. Since flow in this drainageway is intermittent, the samples should be collected in conjunction with a major storm event.

1. Suggest 1 air sample for asbestos.
2. Suggest getting sediment sample from downgradient from prevailing wind.

Std is 0.5 fibers to 2 fibers > 5um/cc

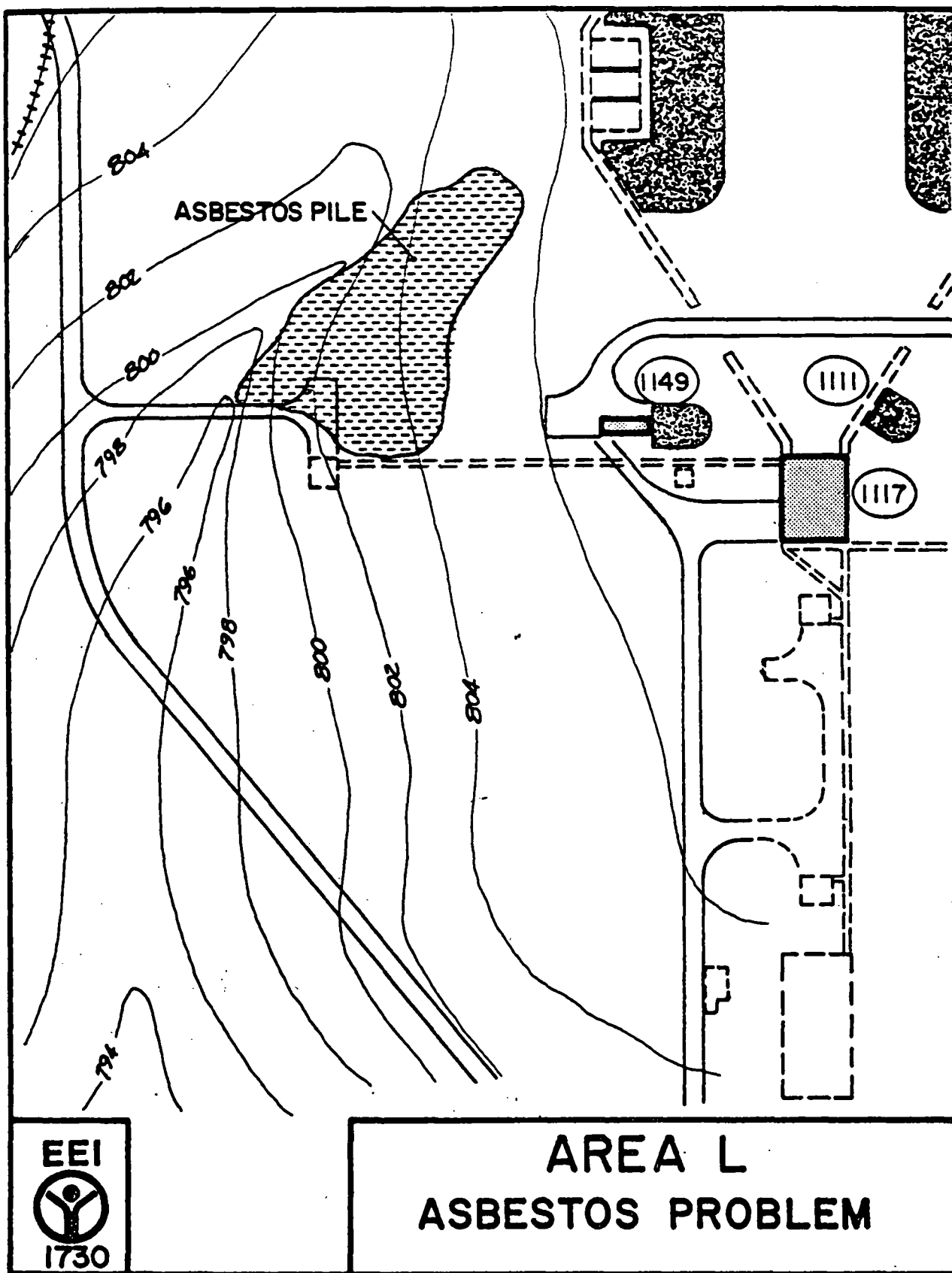


FIGURE 2-3

PESTICIDES

APRIL 1979

The G area is located approximately in the middle of the facility; being about two miles from the Town of McGregor to the northeast. This area, which includes building 705, apparently (no official records could be found) had been used by the Geigy Chemical Company after World War II as a pesticide formulation site. The wall areas of building 705 contained many stencil markings of different pesticide names. Inside the building itself there was a very strong odor originally thought to be pesticides; however, this was discounted after analysis of samples in the building showed no pesticides present. The area behind building 705 on either side of the G area perimeter road, was apparently used as a disposal site for the Geigy operations. The area, approximately 700 feet long and 300 feet wide, was grown up in grass approximately a foot high with sparse unvegetated areas containing broken laboratory type glasswares, barrels, (mostly rusted away) with pesticide markings and pesticide bags with labels indicating that DDT, toxaphene, aldrin-dieldrin, chlordane-heptachlor, BHC-lindane, and endrin had been present. This area also had a very distinct yet different odor from building 705. From the evidence examined it appears that the general Geigy operations consisted of shipping in technical grade (pure) pesticides probably in 55 gallon drums, and mixing with inert material and packaging in building 705.

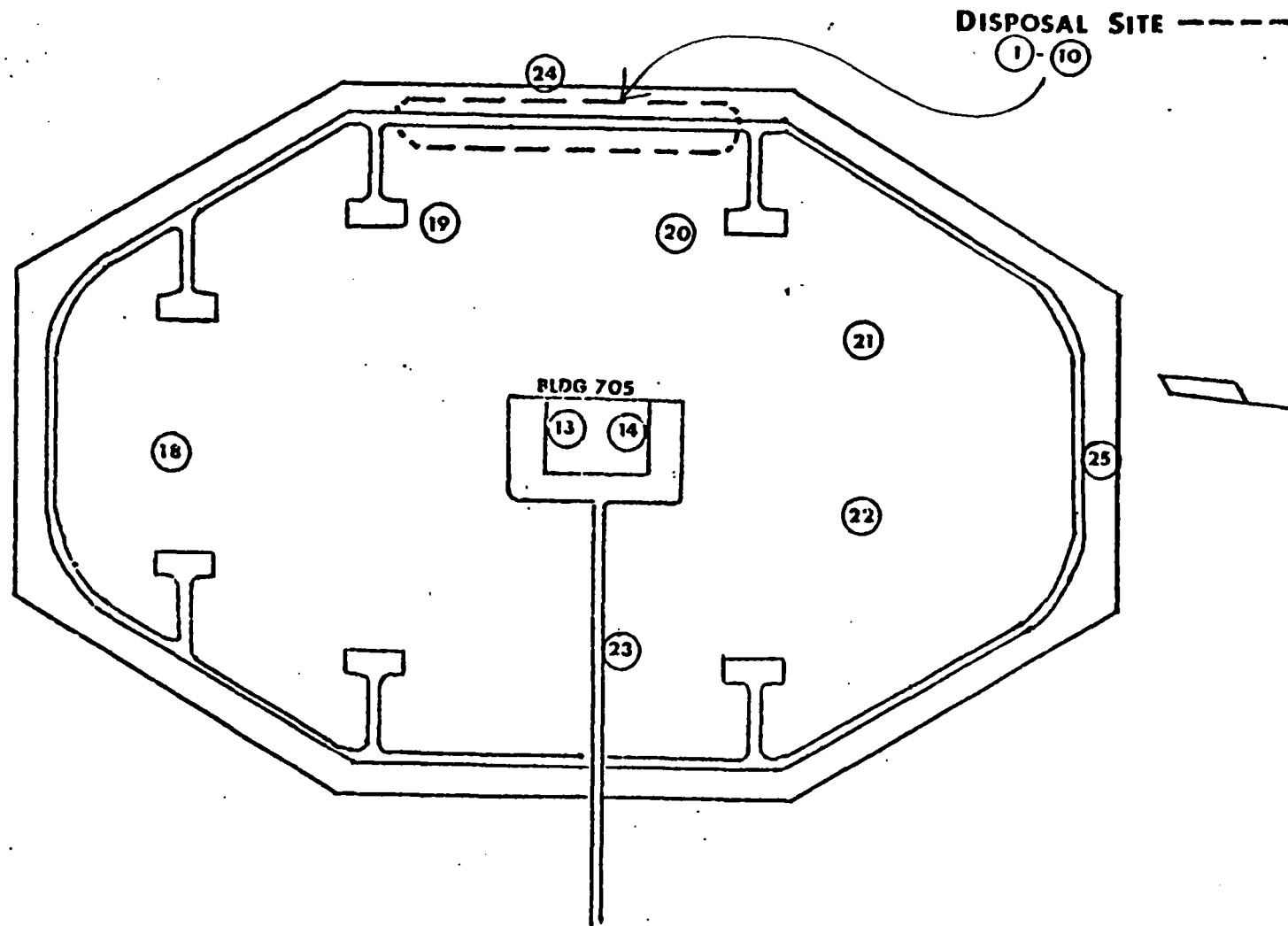
The first day of the survey, 16 May 1978, consisted of a meeting with NWIRP personnel, a general tour of the facility, and collecting several (three) surface samples of suspect material from the G area disposal site, and three samples of soil and water from other areas of the facility.

DDT and
1 mg/l

The second day of the survey consisted of a thorough search and sampling of the G area including building 705. Seven samples were collected within the disposal area, two inside building 705, one from a cattle tank (drainage pond) approximately 3/4 mile from the disposal area, and one from an area outside the G area watershed.

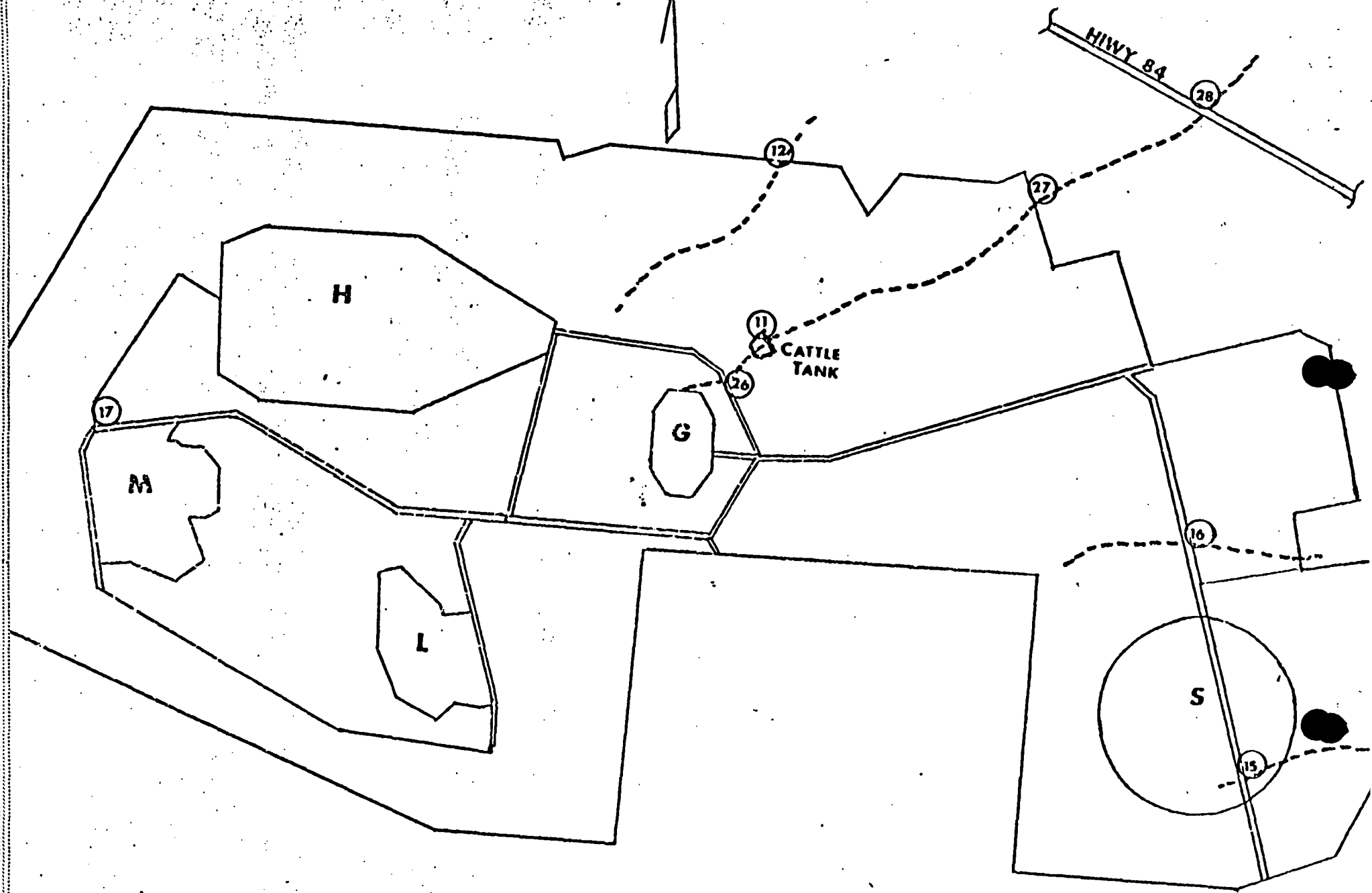
The following list of 17 samples were analyzed by the Naval Ordnance Station, Indian Head, MD. (For locations see Figures 5 and 6):

Sample No.	Description	Date Collected
TOXAPHENE 1	G area - Surface material, brown in color with a resin texture	16 May
SULFUR 2	G area - Surface material, yellow in color with a soft-stone texture	16 May
DDT 3	G area - Surface material, white with a crystalline structure	16 May
DDT 4	G area - (Hole #1) Surface material, white with granular texture	17 May
NOTHING 5	G area - (Hole #1) Soil sample 18" deep	17 May
DDT 6	G area (Hole #2) Surface material white with granular texture	17 May



G area

Figure 5



NWIRP MCGREGOR

--- DRAINAGE

Figure 6

<u>Sample No.</u>	<u>Description</u>	<u>Date Collected</u>
0.2 ppm 7	G area (Hole #2) Soil sample 24" deep	17 May
3.9 ppm 8	G area (Hole #2) Soil sample 42" deep	17 May
DDT 9	G area (Hole #3) Surface material, white with granular texture	17 May
NORMING 10	G area (Hole #3) Soil sample 24" deep	17 May
1.9 ppm 11	Mud sample from cattle tank approximately 3/4 mile below G area	17 May
NORMING 12	Mud sample from Harris Creek, which drains central part of facility (outside G area watershed) at boundary railroad tressel	17 May
" 13	Composite dust and dirt sample collected inside building 705	17 May
" 14	Wall scrappings from inside building 705, brown substance apparently splashed on the walls many years ago	17 May
" 15	Soil sample in dry drainage ditch at calvert under dirt road in S area	16 May
" 16	Water sample in creek at dirt road bridge north of the burn site in S area	16 May
" 17	Mud sample from pond across road (north) from M area	16 May

Samples 1, 2 and 3 were analyzed for suspected substances based upon visual observation; toxaphene, sulfur, and DDT respectively. Samples 4 through 17 were scanned for the presence of any pesticides in general. Samples 4 through 10 were reviewed specifically for the presence of aldrin-dieldrin, chlordane-heptachlor, BHC-lindane, toxaphene, DDT and endrin.

The following analytical results were obtained:

- Sample No. 1 - Toxaphene (high grade - pure)
- 2 - Sulfur (high grade - 98% plus 2% DDT)
- 3 - DDT (pure crystallized)
- 4 - DDT (high grade)
- 5 - No pesticides
- 6 - DDT (high grade)
- 7 - DDT (0.200 ppm)
- 8 - DDT (3.900 ppm)
- 9 - DDT (high grade)
- 10 - No pesticides
- 11 - DDT (1.900 ppm)

- Sample No. 12 - No pesticides
 13 - No pesticides (primarily calcium carbonate)
 14 - No pesticides (natural resin)
 15 - No pesticides
 16 - No pesticides
 17 - No pesticides

Based on the analytical results obtained from the first group of analysis, it was concluded that other than the isolated surface deposits of pure grade pesticides the only contaminant still present after the 25 or so years since the close of the Geigy operations is DDT. These conclusions prompted the second soil sampling visit of 9 January 1979.

On 9 January 1979, a total of eleven soil samples were collected (see Figures 5 and 6). Seven samples (Nos. 18-24) were collected in and around G area. Samples No. 25 and 26 were collected in separate depression areas of the drainage ditch connecting G area and the cattle tank from which sample No. 11 was collected. Samples No. 27 and 28 were collected off NWIRP property in the drainage creek that receives runoff from G area below the cattle tank. These eleven samples were analyzed by NOS, Indian Head, MD, for DDT concentrations.

<u>Sample No.</u>	<u>Results DDT (ppm)</u>	<u>Description</u>
18	.050	G area, soil sample south side of building 705, 3 inches below grade
19	.030	G area, soil sample west side of building 705, 3 inches below grade
20	1.300	G area, soil sample west side of building 705, 3 inches below grade
21	0.200	G area, soil sample north side of building 705, 3 inches below grade
22	0.050	G area, soil sample north side of building 705, 3 inches below grade
23	0.550	G area, soil sample south side of building 705, 3 inches below grade
24	0.100	Just across fence from G area deposit site soil sample 3 inches below grade
25	0.500	G area, surface soil sample north side of building 705 in drainage ditch as it exits the G area at fence line
26	0.050	Surface soil sample in G area drainage ditch next to road leading to H area

<u>Sample No.</u>	<u>Results DDT (ppm)</u>	<u>Description</u>
27	0.015	Mud sample from G area drainage ditch where it exits NWIRP at railroad tressel
28	0.001	Mud sample from G area drainage ditch where it passes under Highway 84, approximately one-half mile below NWIRP boundary

CONCLUSIONS

The disposal site in G area is contaminated with isolated surface deposits of high grade chemicals, of which most are pesticides. These chemicals present a health hazard and should be removed, as should the soil in the immediate vicinity of these deposits. The cattle tank down stream from G area should be filled as its 1.9 ppm DDT presents a potential health problem to livestock using it.

The presence of DDT in the vicinity of the heavy deposits is not unexpected due to its long persistence and its insolubility in water. The exposure level at which DDT concentrations present a direct health hazard to persons working in the area has not been firmly established. Water Quality Criteria 1972, by the National Academy of Sciences, established a calculated maximum safe level from all sources of exposure for DDT for humans at 0.05 mg/kg/day. These limits reflect the amount the National Academy recommends can be ingested without harm to the health of the consumer. It is further pointed out that this limit is meant to serve only in the event that these chemicals (DDT) are inadvertently present and do not imply that their deliberate addition is acceptable. This reference, which is the current reference being used by the Environmental Protection Agency (EPA) for pesticide criteria, does acknowledge that there are conflicting studies relative to the carcinogenic effect of DDT. It is the level of exposure that is in question, not the acknowledged harmful effects. Because of the adverse physiological effects of DDT on humans and because of the inadequate information on the exposure limits, it is recommended that the surface area soil around the concentrated material also be cleaned up.

The residual amounts (approximately 1 ppm or less) of DDT throughout the entire G area and in the cattle tank may not be totally attributable to the Geigy operations, it could, at least partially, be the result of agricultural pesticide application over the years. In any event, these low levels in the soil should not present a health hazard, however, the almost 2 ppm DDT in the cattle tank could present a problem. When the livestock walk in the pond the fine DDT particles become suspended in the water and may be ingested as the livestock drink the water.

The other areas of NWIRP under review (excluding G area) did not exhibit any outward appearances of contamination. Based upon visual observations and conversations with NWIRP personnel there was no evidence to support contamination of these areas. However, due to the highly technical and selective nature of ordnance operations, the Ordnance Environmental Support Office (OESO), Naval Ordnance Station, Indian Head, MD, has been

requested to include NWIRP McGregor, Texas, in their list of activities for comprehensive environmental surveys. An OESO survey is planned for NWIRP McGregor in June 1979.

Relative to these other areas, the following land use observations should be considered:

1. The existence of a solid waste disposal site, such as the one in parcel 3, field 3, is not unusual for an industrial complex such as NWIRP. Cleaning up this type of area for other land use would probably be economically unjustifiable;
2. The burn site within S area would exclude other land use by the nature of its operations, and runoff from the site does not present a health hazard to the surrounding area;
3. The parcel 4, field 3, that contains the Imhoff Tank and waste stabilization ponds (evaporation ponds) should remain as is with a small buffer zone from other land areas.

RECOMMENDATIONS

The surface deposits of high grade chemicals present a health hazard and should be removed. Until this is accomplished, and as agreed upon during the outbriefing of the January visit with Messrs. Harley Kamm and Jim Wagnor, the area as it presently exists, should be designated as a "minimum access area". This being an area where access is restricted to only direct job related personnel and then only for non-continuous duration, particular emphasis should be made to eliminate/restrict exposure to the actual disposal site itself.

The deposits of high grade chemicals (probably no more than one or two cubic feet) should be eliminated by packaging and landfill. The high grade material should be placed in a metal drum, properly labeled as containing pesticides, and sent to a Class A landfill for burial. It is doubtful that the City of McGregor would accept this material in their landfill. If a closer suitable landfill cannot be found, Texas Ecologist, Inc., Robstown, Texas, (512) 387-3518, has accepted this type of material for landfiling in the past for a nominal fee (less than \$20/barrel).

The surface soil in the immediate vicinity of the concentrated surface deposits should be removed. It is recommended that the material be buried on site. A four to six foot trench could be dug along the west fence of G area for this purpose. The soil, approximately six to eight inches deep and three to four feet away from the surface deposits, should be scrapped up, placed in the trench and covered with at least four feet of cover. The cattle tank should be filled and abandoned and the storm drainage path from the G area rerouted around it. A new tank could be dug out in the near vicinity if local operations so require.

The entire Geigy Chemical Company disposal site, on both sides of the G area perimeter road should be cleaned of debris such as the broken glass, paper, barrels, etc. This material could be taken to the City of McGregor landfill.

As a final precautionary measure, it is recommended that the entire disposal site be plowed and seeded with a grass cover. This will result in at least several inches of cover over any unnoticed area of contamination.

To accomplish this the area should be plowed using a disc a minimum of 4 inches deep. Next the soil should be harrowed to provide a smooth seed-bed, then fertilized with 10-20-10 at a rate of 300 lbs per acre evenly spread over the entire area and seeded with Kline grass at a rate of 2.5 pounds per acre. These practices should be applied and completed within 10 days following completion of chemical clean-up.

With the implementation of the above recommendations the G area should be available for agricultural outleasing.

Another sampling program initiated

DEPARTMENT OF THE NAVY

Memorandum

DATE: 18 July 79

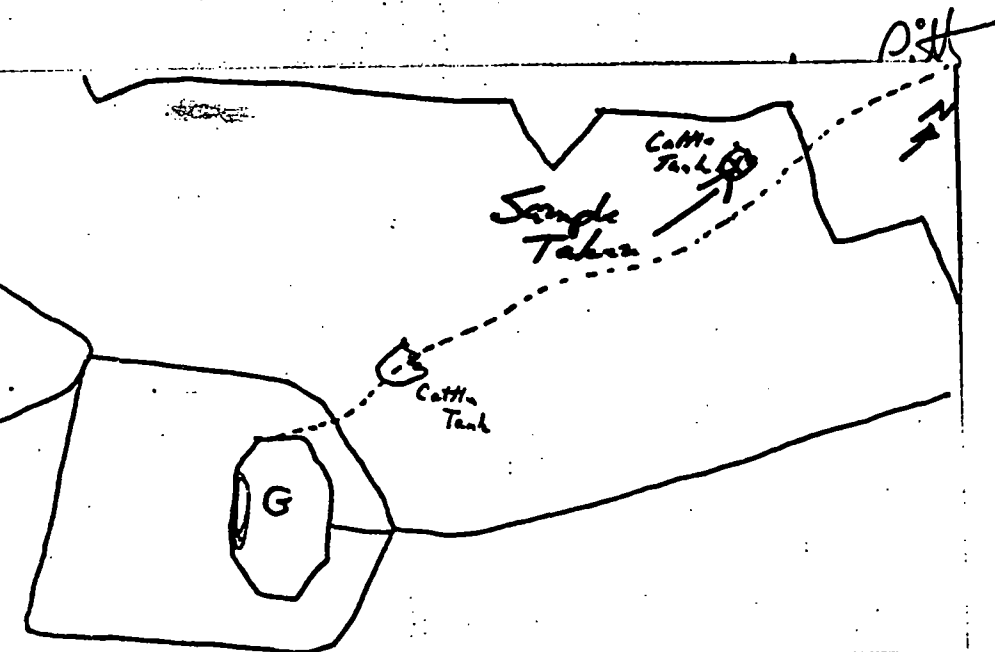
FROM : Code 114C

TO : Code 243

SUBJ : Soil Contamination at NWIRP McGregor, TX

Ref: (a) Foncom btwn Mr. Ted Sullivan, OESO and Mr. L. Pitts, Code 114C
on 18 Jul 79

1. During an Environmental Engineering Survey, Mr. Scott M. Hoy, Code 114A, collected a sediment sample from the cattle tank located at the northern corner of the subject activity. The sample was sent to the Ordnance Environmental Support Office (OESO) Indian Head, Maryland for determination of DDT concentrations.
2. The results of that analysis, received during reference (a), showed 3 parts per billion DDT. This extremely small amount can be ignored. It should not present a hazard to humans or livestock.



This was just completed

2.3 AREA G (TOOLING & EQUIPMENT STORAGE)

Located in Area G is a pesticide dump site which has areas totally void of any vegetation. This pesticide dump site supposedly dates back to the 1948-1952 period when Area G was operated by the Geigy Company as a pesticide formulation plant. The chemicals used in Area G during the Geigy period of operation included DDT, toxophene, parathion, sulfur, aldrin-dieldrin, chlordane-heptachlor, BHC-Lindane, and endrin. This list of chemicals was obtained from the "Soils Contamination Investigation" undertaken in 1979 by SOUTHNAVFACENGCOM, and from conversations with a representative of Geigy Company's (now CIBA-Geigy) Environmental Control office in Ardsley, New York.

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The areas which are void of vegetation are located between the perimeter road and boundary fence along the western portion of Area G (see Figure 2-2 for the location of the pesticide spill site). The largest unvegetated spot covers an area of approximately 20 feet by 100 feet. Also located between the perimeter road and boundary fence are other smaller unvegetated spots. These occur in an area which is approximately 60 feet wide by 600 feet long (see Plate 2-4). While these unvegetated spots pinpoint the location of the most seriously and highly contaminated areas, this does not mean that the surrounding areas were not also subjected to chemical dumping. The actual extent of the pesticide dumping is unknown, but in all likelihood dumping occurred on both sides of the perimeter road. The "Soils Contamination Investigation" also shows the pesticide spill area being located on both sides of the perimeter road.

The pesticide dump site is located within the Harris Creek watershed. Surface drainage flows in a general northeastward direction from the pesticide dump site. The actual surface drainage at the pesticide dump site is poorly defined. The perimeter road is slightly raised, but runoff from the pesticide site probably crosses the road. There was no indication of erosion, but the slope is generally too low for noticeable erosion to occur. Surface drainage from the pesticide dump site flows into Harris Creek (see Figure 5-7 for the general surface drainage in the area of the pesticide dump site).

In the "Soil Contamination Investigation" undertaken in 1979 by SOUTHNAVFACENGCOM, numerous soil and sediment samples were taken and analyzed for pesticides. These samples were taken within the area of the pesticide spill, within the drainage area of the pesticide dump site, and outside the drainage area of the pesticide dump site. These consisted mostly of surface samples and shallow soil samples taken at three inches below grade. However, there was a sample taken at a depth of 18 inches, two at a depth of 24 inches, and one at a depth of 42 inches. There were also sediment samples taken from drainageways and ponds.

The results of this analysis showed that other than one isolated surface deposit of pure grade toxophene, the only contaminant still present in the samples was DDT. This is not surprising since DDT is very persistent in the environment. In the unvegetated areas high grade DDT was found and, in one sample, pure crystallized DDT was present. Figure 2-2 contains a map showing the location of the soil samples and the levels of DDT that were found in the samples.

From the limited number of deep soil samples taken in this investigation, it is difficult to conclude whether there is any downward migration of the DDT in the soil. There were three holes dug in order to obtain the deeper soil samples. In two of these holes the surface sample indicated DDT, but the samples taken at 18 inches in one hole and 24 inches in the other indicated no DDT. In the other hole, DDT was found at 3.9 ppm at a depth of 42 inches. However, this finding is very questionable since a sample taken from the same hole at a depth of 24 inches indicated only 0.2 ppm DDT. While it appears that there may be no downward movement of the DDT, more thorough deep soil testing is needed to verify this.

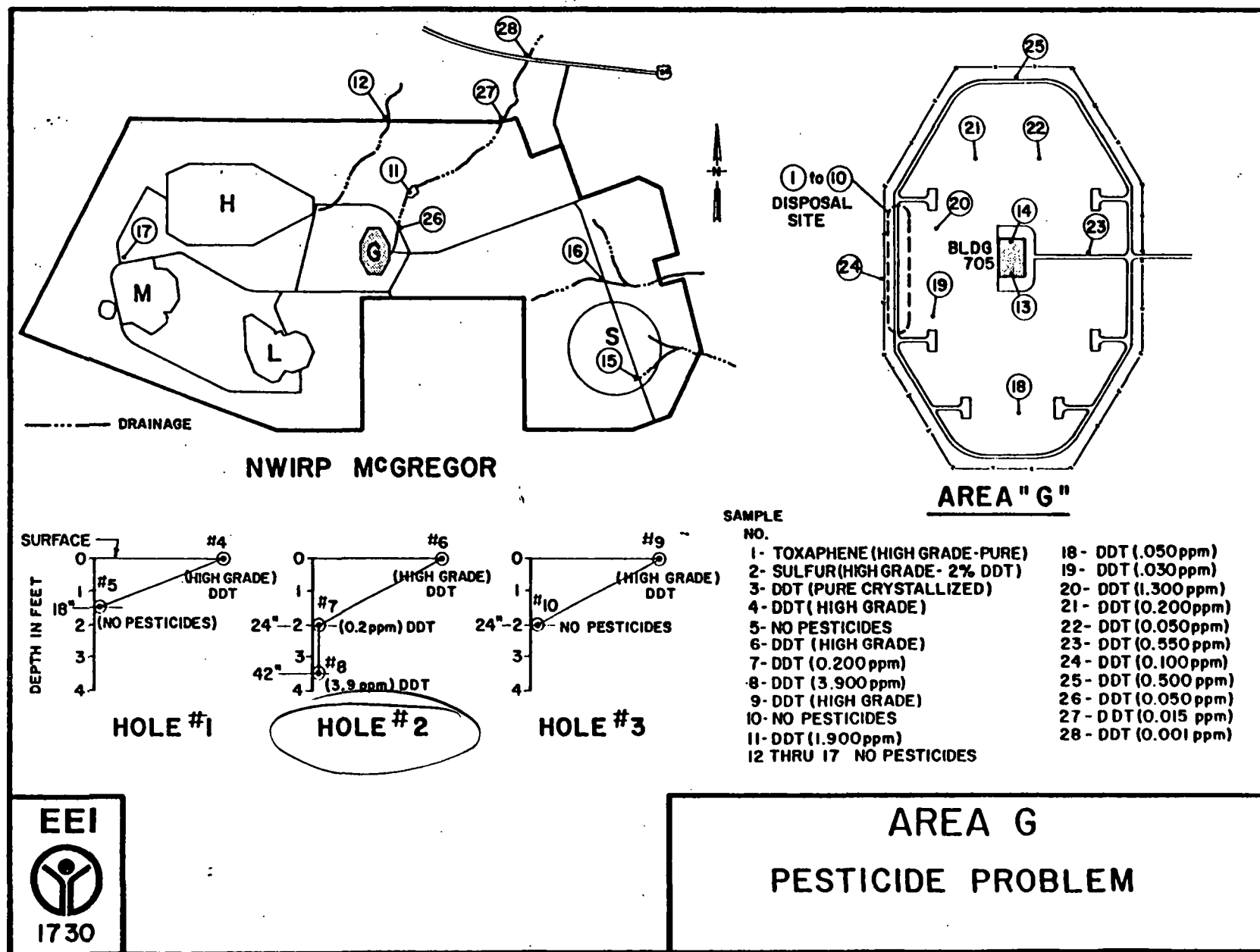


FIGURE 2-2

This analysis does, however, indicate that the DDT is migrating horizontally and is spreading into the Harris Creek watershed. These surface samples range from pure DDT in the unvegetated areas, to 0.001 ppm in the sediment of the drainage ditch which passes under Highway 84 approximately one-half mile northeast of the NWIRP-McGregor site (see Figure 2-2 for a listing of the DDT levels in the other surface samples and for their location). Of particular significance is the 1.90 ug/g of DDT in the sediment of the stock pond which is located approximately 3/4 of a mile to the northeast of Area G.

The levels of DDT found in these samples is of significance, both in terms of human health and freshwater aquatic life. For DDT and its metabolites, the criterion to protect freshwater aquatic life is 0.0010 ug/l as a 24-hour average and the concentration should not exceed 1.1 ug/l at any time. In terms of human health, the level of DDT for a 10^{-5} cancer risk (one additional case of cancer per 100,000 population) is set at .24 ng/l. These levels are from the Guideline Water Quality Criteria published by the EPA on November 28, 1980 (Federal Register, Vol. 45, No. 231). While these criteria are based on levels of DDT in water, the fact that the DDT is present in the soil and sediment samples in concentrations far in excess of these recommended guidelines is reason to be concerned. Because of the high concentrations found in the sediments, it seems possible that the water quality standards could be exceeded in the drainage area of the pesticide dump site and, thus, represents a significant problem, as a threat to the protection of freshwater aquatic life.

It is possible that not all of the DDT found in the samples comes from the pesticide dump area. Some of the DDT could be the result of agricultural pesticide applications over the years. However, since the soil samples taken outside of the pesticide dump drainage area had no detectable level of DDT, an agricultural source does not seem likely.

4.2 AREA G (TOOLING AND EQUIPMENT STORAGE)

Prior to the reacquisition of Area G by the Air Force in 1952, or possibly during the initial rehabilitation efforts by the Air Force prior to the start-up of operations by Phillips Petroleum, waste pesticides were apparently dumped on the surface of the ground in the western portion of Area G. In 1978, a preliminary sampling and analysis program was conducted regarding the pesticide dump in Area G. This study concluded that there was substantial surface contamination with DDT, and that there was some transport of DDT including contamination of the sediment in the stock pond north of Area F. The study was inconclusive regarding the downward leaching of the DDT through the soils in the vicinity of the pesticide dump.

This study also indicated that dumping had occurred and contamination was present over a much larger area than was discernible during EEI's site inspection in August, 1981. This was probably due to the dense cover of Johnson grass present during August. The Johnson grass serves to hide the contaminated areas by growing over, but not in, contaminated spots. Thus, detection of contaminated areas was very difficult.

Because of the highly toxic and bioaccumulative effects of DDT, and the indication of substantial migration of the DDT through the drainageways, EEI recommends the following.

1. Determine the extent of the gross contamination in the known dumping area. In order to accomplish this, EEI recommends that a sampling grid be established in the known dump site. Figure 4-3 shows the recommended area of this grid. The grid should consist of six east-west transects, with a transect spacing of 200 feet. This will cover an area 1,000 feet long in the north-south direction. Each of the six transects should be 240 feet long, with sampling points approximately every 20 feet.

This will yield thirteen sampling points for each transect, for a total of 78 sampling points. Surface grab samples should be collected to a depth of 3 to 4 inches at each sampling point. The sample should not necessarily be collected at the exact nodal points on the grid. Field judgement should be used to select samples within the general vicinity of the grid points where evidence of contamination is present. The actual sample points should be marked for future reference.

Once the analysis of the surface samples is completed, ten contaminated (500 to 5,000 ppm) sites should be selected. At each of these ten locations, samples should be collected at one foot intervals to a depth of four feet. This will determine the vertical extent of the contamination (leaching). If the results of these deeper samples indicate that deep (at least 4 feet) leaching has occurred, shallow groundwater monitoring wells should be installed. If the results of the deep sampling indicate that deep leaching has not occurred, monitoring wells would not be necessary.

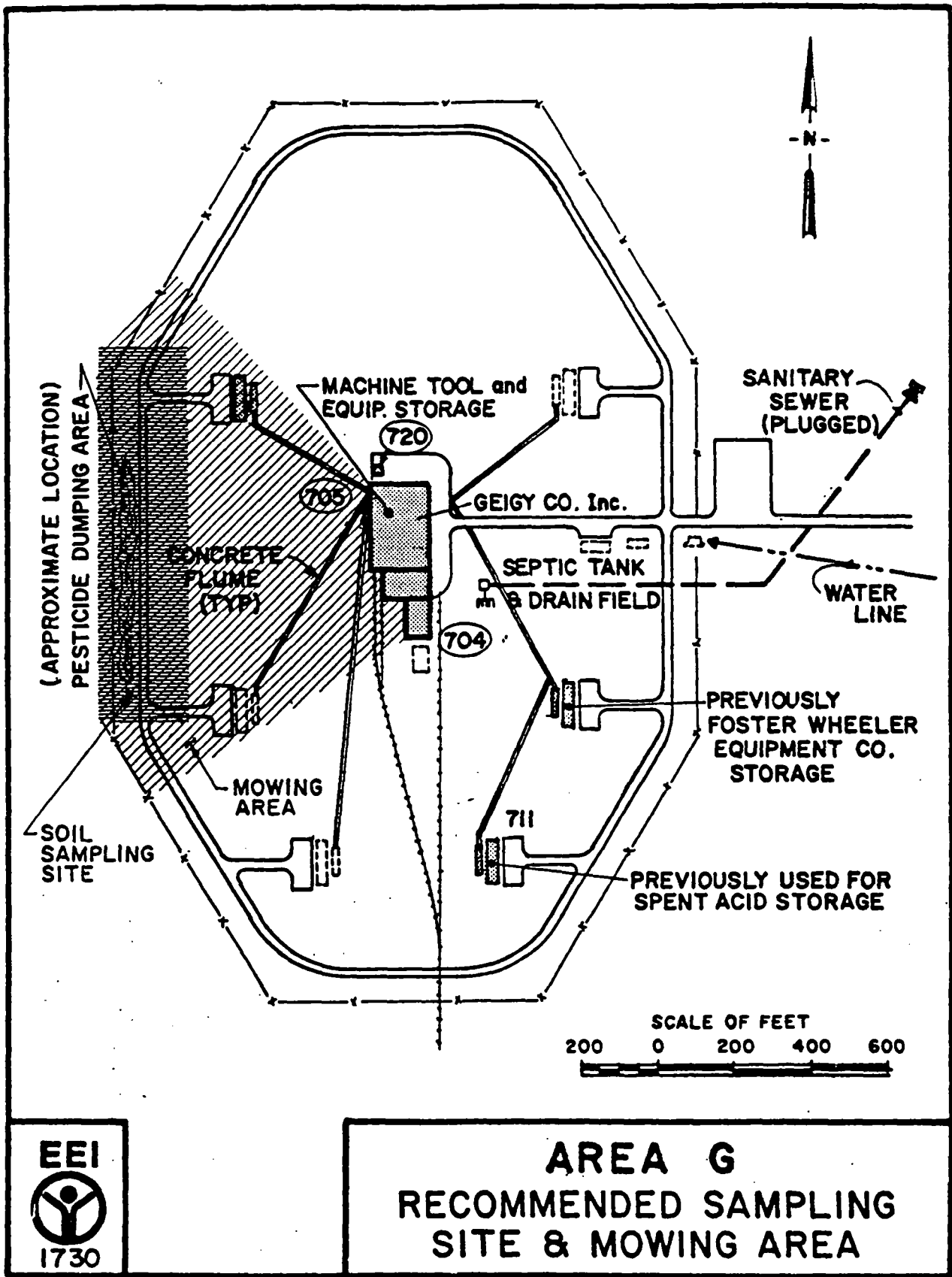


FIGURE 4-3

2. Document the extent of migration through the drainageways This could be accomplished by collecting a series of sediment and water samples from the drainageway leading northeast from Area G. EEI recommends that six sediment samples be collected from this drainageway between the dump site and the stock pond north of Area F. Two more sediment samples should be collected from the drainageway between the stock pond and the boundary of the site. Two water samples should also be collected from this drainageway. Since flow in this drainageway is intermittent, the samples will have to be collected in association with a major rainfall event. The samples should be collected at or after the peak of the runoff has occurred - not during the early part of the storm event. One of these samples should be collected from the stream as it enters the stock pond north of Area F, and the other sample should be collected where the stream leaves the boundary of NWIRP-McGregor.

3. Attempt to locate additional areas of dumping or contamination. In order to accomplish this, EEI recommends that the Johnson grass in part of Area G be mowed and the clippings raked and removed (see Figure 4-3). Low altitude aerial photographs should then be taken of Area G in its entirety. Suspicious looking spots on the photos should be marked, and then visually inspected on the ground. Those locations where contamination or dumping is still suspected should be sampled and the locations marked for future reference.

4. General Recommendations. A variety of pesticides were handled at this facility, but the previous study detected primarily DDT contamination. Therefore, EEI recommends that all of the samples be analyzed for at least DDT. In addition to DDT, at least 20 percent of the surface grab samples should be subjected to a pesticide screen for toxaphene, parathion, aldrin-dieldrin, chlordane-heptachlor, BHC-lindane, and endrin.

Once the extent of the contamination is known, corrective measures can be initiated.